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ABSTRACT

Both educational vouchers and class size reduction are high-profile proposals for improving education. While the body of research on vouchers is small and unconvincing, the research on smaller classes is abundant and compelling. Researchers have been able to compare the impact of both of these policy alternatives on student performance. Their comparison shows that smaller classes far outpace vouchers in raising student test scores. A recent study on voucher students in various cities found that while African American voucher students outscored those who remained in public schools, neither white nor Hispanic voucher students showed any academic gains over their public school peers. The researchers concluded that there was no overall private school impact on the student test scores of those using vouchers. Other studies have also failed to buttress the case being made by voucher supporters (e.g., studies of the Cleveland and Milwaukee voucher programs). Though voucher supporters claim that public schools will not improve without competition, last year, numerous large, urban districts raised achievement scores without the presence of publicly funded vouchers. Research indicates that smaller classes are more effective at raising student achievement than are voucher programs. (Contains 42 endnotes.) (SM)

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# TWO ROADS TO REFORM:

## *Comparing the Research on Vouchers And Class-Size Reduction*

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Earlier this year, President Bush signed the reauthorization of the Elementary and Secondary Education Act (ESEA) or what he called the No Child Left Behind Act. Interestingly, one term appears more than 100 times in ESEA: "scientifically based research."[1] The goal of ESEA's bipartisan supporters, explained recently in an *Education Week* article, is to "base school improvement efforts less on intuition and experience and more on research-based evidence."[2] As the reform debate continues, it is worth examining two distinct proposals—private-school vouchers and class-size reduction—and what the research says about their impact on student achievement.

The U.S. Supreme Court is soon expected to issue a ruling that decides whether the Cleveland voucher program is constitutional. At least as important as whether vouchers are constitutionally sound is the question of whether vouchers are *educationally* sound. What does the research say about vouchers? And are there more sensible and less divisive alternatives—such as reducing class sizes in public schools—that can help low-achieving students?

Both vouchers and class-size reduction are high-profile proposals. But relying on "scientifically based research" to assess these two proposals reveals some major distinctions. While the body of research on vouchers is both small and unconvincing, the corresponding research on smaller classes is both abundant and compelling. Most significantly, researchers have been able to compare the impact that both of these policy alternatives have on student performance. This comparison shows that smaller classes far outpace vouchers in raising student tests scores.[3]

**Vouchers: What the Most Recent Research Shows**

This week, Harvard University professor Paul E. Peterson is addressing a Heritage Foundation audience to discuss his research on voucher students in various cities, including New York City. Peterson's message is likely to resemble the presentation that he and University of Wisconsin-Madison professor William G. Howell gave only a few weeks ago at a Brookings Institution symposium, reviewing a Peterson-Howell report on a three-year study of voucher students. The three-year study compared a "treatment" group (students who used a voucher to switch to a private school) with a "control" group (students who attended public schools).

In its findings, the Peterson research team reported that African-American voucher students consistently outscored those who remained in public schools. One newspaper trumpeted the Peterson-Howell research in an article headlined: "Scores of blacks rise with vouchers."[4] But this upbeat coverage—and what is likely to be a similar spin by pro-voucher groups in the months ahead—is unjustified by the data, nor does it answer several questions raised by the data. In fact, Peterson and Howell specifically admitted that their three-year findings should not be used as an argument in favor of a "large-scale voucher program" serving all children in an urban school system.[5]

While voucher supporters are likely to focus on the three-year data showing gains for African-American voucher students, there are nagging concerns and questions about the Peterson-Howell data. For example, there were large fluctuations among subgroups and across the various years of the study, even in New York City. It is also worth noting that neither white nor Hispanic voucher students showed any academic gains over their public school peers. Additionally, a review of the New York City data reveals that reading scores actually *declined* for all groups of Hispanic voucher students, except for those in 7th grade. Peterson and Howell have made considerable effort to explain why black scores improved and why white and Hispanic scores did not—but to no avail.[6] All of these considerations help to explain why Peterson and Howell concluded that there is "no overall private school impact of switching to a private school on student test scores ..."[7]

**Voucher supporters are putting an upbeat spin on the Peterson-Howell report, even though the authors concluded that there was "no overall private school impact" on the student test scores of those using vouchers.**

Finally, this isn't the first time a Peterson-led voucher study yielded a host of questions or concerns. The conclusions drawn by Peterson from a voucher study released in August 2000 were seriously challenged. (The 2000 data were part of the overall three-year study that Peterson and Howell recently released.) Researchers Alex Molnar and Charles Achilles raised concerns about the August 2000 data, warning that the Peterson team's use of averaged results "may make the achievement impact reported appear more generalized than it is."[8] And Mathematica Policy Research, one of the partners in the August 2000 study, was so disturbed by the conclusions drawn by the Peterson team that the firm took the extraordinary step of issuing a press statement entitled "Voucher Claims of Success Are Premature in New York City." Referring to the August 2000 data, Mathematica cautioned policymakers against "setting policy based on the overall modest impacts on test scores."[9]

**Findings on Cleveland and Milwaukee Voucher Plans**

Over the past few years, other research and analyses of voucher programs have failed to buttress the case being made by voucher supporters. Last fall, the U.S. General Accounting Office reviewed state evaluations and found little or no difference between the academic achievement of voucher students and public school students in Cleveland and Milwaukee—the two major urban school systems with publicly funded voucher programs.[10]

Indiana University researcher Kim Metcalf, who has spent several years studying the Cleveland program, released a report last year comparing groups of voucher students and public school students from the time they entered first grade through the end of second grade. While voucher students had higher total test scores entering first grade, this advantage quickly began to erode. Over this two-year period, the report revealed that the public school students demonstrated average learning gains that were *greater* in language, reading and math than the voucher students.[11]

Voucher supporters have cited isolated data from last year's Indiana University report, claiming that Metcalf's research proves that vouchers boost academic performance. Yet Metcalf himself wrote that the analysis of student test results from voucher schools and public schools "presented no clear or consistent pattern tha[t] can be attributable to [voucher] program participation." Echoing this view, the Ohio Department of Education summed up the study in distinctly lukewarm terms, noting that voucher students "perform at a similar academic level as public school students."[12]

The Milwaukee voucher program has received only one comprehensive state evaluation, conducted in 1995 by a University of Wisconsin-Madison team led by professor John Witte.[13] Reviewing the voucher program's first five years, Witte found no appreciable academic gains in reading and math from vouchers.[14] He also observed that the attrition rates for voucher students were high, especially in the first two years.[15] Using Witte's data, a research team led by Peterson employed different assumptions and statistical techniques, claiming that there was a statistically significant gain for voucher students in the third and fourth years of the program.[16] But this finding was disputed by many in the research community, who argued that by the third year the control and experimental groups were not comparable. The annual attrition rate (about 30 percent)—consisting primarily of students doing poorly in the voucher program—ensured that those students who remained were an academically superior subset, not a random sample.[17] Other aspects of the methodology used by the Peterson team to re-analyze the Milwaukee data have been criticized, including the Peterson team's reliance, in some cases, on tiny samples—in one instance, a sample of 26 students.[18] The Peterson team's re-analysis was described by Witte as a "confusing, tortured effort," and even the pro-voucher *Wall Street Journal* wrote that Peterson was "loose with his claims."[19]

Since the 1995 state evaluation, voucher supporters have shown no enthusiasm for new efforts to examine the program's impact on student achievement. In fact, after the lackluster results of this evaluation were released, Wisconsin legislators eliminated provisions calling for future academic evaluations of the program.[20] Since then, the Legislature has provided only for a single audit by the state's Legislative Audit Bureau in the year 2000. This audit observed: "Some hopes for the program—most notably, that it would increase participating students' academic achievement—cannot be documented, largely because uniform testing is not required in participating schools."[21]

Some voucher supporters have cited research by Princeton University's Cecilia Rouse that reported math gains for Milwaukee voucher students.[22] Yet, the findings Rouse cited were only for the subgroup of students who were in the voucher program over a four-year period. As noted earlier, student attrition rates come into play because Witte found that "voucher students who *left* the [Milwaukee] program for various reasons had lower test scores than those who continued to participate [emphasis in original]."[23] Clearly, a full and accurate assessment of voucher schools considers not simply those students who use a voucher and remain in the voucher school, but, rather, *all* students who entered the voucher program. In simple terms, students who do well in voucher schools are more likely to stay—those doing poorly are more likely to leave or drop out. Additionally, Rouse found that "the [voucher]

effects on the reading scores are as often negative as positive and are nearly always statistically indistinguishable from zero."[24]

**The Voucher 'Competition' Myth**

Voucher supporters such as researcher Jay Greene claim that vouchers have a positive impact on *public* school students because the threat they pose leads public schools to improve. In a February 2001 report, Greene asserted that the "Florida A+" voucher program led to public school gains. But researchers at Rutgers University and the University of Colorado at Boulder identified serious flaws in Greene's analysis.[25] Stanford University professor Martin Carnoy found that under the accountability system that Florida created *before* vouchers existed, student improvement was greater than after the so-called 'voucher threat' was introduced.[26]

Greene also neglected to consider the significant impact of extra resources, both state and local, which were directed towards Florida's 'F'-rated public schools. These resources enabled the schools to extend the school day, week, and year, as well as strengthen professional development for teachers. These elements—combined with accountability measures—may well have been the real cause of improvements in these Florida public schools.[27]

**Voucher supporters claim that public schools won't improve without "competition." Yet, last year, numerous large urban public school districts raised both math and reading scores without the presence of a publicly funded voucher program.**

While pro-voucher forces claim that public schools won't improve without "competition" from voucher programs, the evidence dispels this myth. In fact, public school districts in Los Angeles, Baltimore, Dallas, Portland, Minneapolis, San Diego, Birmingham and Seattle raised both their reading and math scores last year *in every grade tested*—and each of these urban districts did so without the presence of a publicly funded voucher program.[28] Indeed, Greene's own research leads to the conclusion that accountability, testing, and increased resources led to public school improvement in Texas, a state which has no publicly funded voucher program.[29]

Voucher supporters also cite Harvard University researcher Caroline Hoxby's finding that competition from private schools spurs improvements in public schools. But Duke University professor Helen Ladd and other analysts have questioned Hoxby's conclusions. In a study published earlier this year, Ladd observed that other researchers "have used better data and alternative methods and have found no positive effects on public school achievement from competition from private schools."[30]

**Class Size Reduction: What We Know**

In stark contrast to vouchers, the research supporting the benefits of class-size reduction is both ample and compelling. Indeed, a considerable body of research demonstrates that significantly reducing class sizes in the early elementary grades has a major impact in

helping to close the achievement gap between white and minority students. This finding is supported by one of the most large-scale, comprehensive studies ever conducted in education: the Tennessee project called Student-Teacher Achievement Ratio or STAR. The highly respected Harvard statistician Frederick Mosteller has called STAR "one of the most important educational investigations ever carried out."[31]

In an evaluation involving more than 11,000 students, STAR researchers compared the progress of students who were in smaller K-3 classes in 1985-89 (pupil-teacher ratios of 14-16 to 1) to students who attended regular-sized classes. Researchers found that smaller-class students outperformed their peers in regular-sized classes during those years.[32] More significantly, however, the smaller-class students continued to outpace their peers in math, reading and science for many years to come—even long *after* returning to regular-sized classes in later years. In fact, the gap in test scores between students in the smaller classes and the regular classes increased over time.

STAR researchers also found that the black-white gap in taking college-preparatory exams was cut in half for those minorities who had been in smaller classes.[33] Smaller-class students were not only more likely to take college-prep exams, but they also scored higher on these exams.[34] Jeremy Finn, a professor at the State University of New York, has observed that the STAR research "leaves no doubt that small classes have an advantage over larger classes" in raising student achievement.[35]

The benefits of significant class-size reduction have also been demonstrated in other states. Started in 1996, Wisconsin's Student Achievement Guarantee in Education (SAGE) is a statewide class-size reduction program that has enjoyed strong bipartisan support and is targeted to low-income students in grades K-3. SAGE provides participating schools with $2,000 per student to reduce classes to pupil-teacher ratios of 15-1. The program requires participating schools to hold extended hours and provide community services to district residents. SAGE guidelines also require the development of rigorous curriculum and staff development. In the 2001-02 school year, more than 81,000 students statewide are participating in SAGE.[36]

There is extensive research-based evidence supporting SAGE's success in helping to improve student performance. In an evaluation of SAGE and comparison schools, 29 of the top 30 classrooms as measured by student achievement in language arts, reading and math were SAGE classrooms. The achievement gap in language arts and math between African-American and white first-grade students was *reduced* in SAGE classrooms while it *increased* in comparison schools. Black second- and third-grade students in SAGE schools scored higher on every test than their black peers in the comparison schools.[37] Results from the recently released 5th-year evaluation of SAGE reinforce these findings.[38] The intensive and ongoing evaluations of SAGE by Wisconsin officials stand in stark contrast to the Milwaukee voucher program, which was the subject of only one state evaluation—now seven years old.

Moreover, the SAGE findings are consistent with research obtained on the impact of class-size reduction in other states. For example, smaller classes were identified in a RAND study

as one of the "major contributions" to Texas' significant achievement gains during the 1990s.[39]

**Class-Size Reduction Versus Vouchers**

How does class-size reduction compare with school vouchers? It's a question that we can answer with surprising clarity thanks to a growing body of research.

Princeton University researcher Cecilia Rouse, whose findings have been cited by voucher supporters, conducted a study in 1998 comparing Milwaukee's voucher schools with the city's P-5 schools—public schools with small class sizes and additional targeted funding (similar to SAGE). "The results suggest," Rouse concluded, "that students in P-5 schools have math test score gains similar to those in the [voucher] schools, and that students in the P-5 schools outperform students in the [voucher] schools in reading." Rouse went on to explain: "Given that the pupil-teacher ratios in the P-5 and [voucher] schools are significantly smaller than those in the other public schools, one *potential* explanation for these results is that students perform well in schools with smaller class sizes [emphasis in original]."[40] In other words, improved test scores for some voucher students may have been the result of attending smaller classes.

**A 1998 study found that Milwaukee public school students in smaller classes had higher reading scores than those who used vouchers to attend the city's private schools.**

Princeton University researchers Alan Krueger and Diane Whitmore compared the effect of attending a smaller class to the effect of receiving a private-school voucher. Despite the serious questions raised about the Peterson team's August 2000 voucher study, Krueger and Whitmore used the study's data on African-American voucher students for the sake of comparison. (Keep in mind, in the August 2000 study African-Americans were the *only* subgroup of voucher students who showed significant gains.) Even in this context, Krueger and Whitmore found that black students who had attended small classes "improved their test performance by around 50 percent more than the gain experienced by black students who attended a private school as a result of receiving a voucher ..."[41]

Although, in statistical terms, class size doesn't emerge as a determining factor in the African-American gains cited in Peterson-Howell's three-year evaluation of voucher students, it is clear that these voucher students were in smaller schools with smaller class sizes, and more after-school and tutorial programs.[42]

Indeed, this is a powerful irony. The African-American voucher students were learning in the very educational climate that many policy analysts have long sought for *public* schools—a climate that is incredibly difficult to create when a state diverts substantial tax dollars to vouchers.

**ENDNOTES**

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[18] Correspondence from Peter Cookson, Jr.; John Witte, "Reply to Greene, Peterson and Du: The Effectiveness of School Choice in Milwaukee: A secondary analysis of data from the program's evaluation," August 23, 1996.
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[22] Cecilia Rouse, "Private School Vouchers and Student Achievement: An Evaluation of the Milwaukee Parental Choice Program," *Quarterly Journal of Economics*, vol. 113, no. 2, May 1998, pp. 553-602.
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[35] Quote by Finn is taken from: "Class-Size Reduction," Web site of the National PTA, accessed May 2002 via: www.pta.org/ptawashington/issues/classsize.asp.

[36] "SAGE Facts," Wisconsin Department of Public Instruction, 2001; accessed April 2002 via: www.dpi.state.wi.us/ (Note: Schools that elect to participate in SAGE must reduce class sizes for all students throughout the grade, not simply in those classes with low-income students since to do otherwise would result in economic segregation of students. Thus, SAGE has a multiplier effect.)

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[40] Cecilia Rouse, "Schools and Student Achievement: More Evidence from the Milwaukee Parental Choice Program," Federal Reserve Bank of New York *Economic Policy Review*, vol. 4, no. 1, March 1998, pp. 61-78. (Pupil-teacher ratios averaged 17.0:1 in the P-5 public schools and 15.3:1 in the voucher schools.)

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